

METHOD AND SYSTEM FOR DETERMINING MAXIMUM POWER BACKOFF  
USING FREQUENCY DOMAIN GEOMETRIC SIGNAL TO NOISE RATIO

ABSTRACT

5           The present invention is directed to methods and systems for determining  
maximum power backoff for modems operating according to G.SHDSL and other  
standards using frequency domain geometric signal to noise ratio (SNR). In one  
example, a G.SHDSL standard may specify a minimum power back off (PBO) that may  
be required for modem implementation. Although the standard specifies the minimum  
10 back off, it is desirable to be able to increase the PBO beyond this level. The reasons for  
this may include reduced power consumption and reduced crosstalk generated by a  
modem. The present invention discloses a method and system for determining an  
absolute maximum power PBO that may be tolerated and still meet bit error rate (BER)  
and/or other requirements. The present invention implements a geometric mean to  
15 compute SNR in a frequency domain over a pass-band of a transmit spectrum.